

## PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) **08 JULY 2005 (08.07.2005)**

Applicant's or agent's file reference

240

FOR FURTHER ACTION

See paragraph 2 below

International application No.

**PCT/KR2005/000738**

International filing date (day/month/year)

**15 MARCH 2005 (15.03.2005)**

Priority date(day/month/year)

17 MARCH 2004 (17.03.2004)

International Patent Classification (IPC) or both national classification and IPC

**IPC7 G01N 27/62**

Applicant

**KOREA INSTITUTE OF SCIENCE AND TECHNOLOGY et al**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

## 2. FURTHER ACTION


If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR

 Korean Intellectual Property Office  
920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
Republic of Korea

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2005/000738

**Box No. I Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2005/000738

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	1 - 27	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 27	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 27	YES
	Claims		NO

**2. Citations and explanations :**

Reference is made to the following documents:

D1: US 2003-0052006 A1

D2: JP 08315633 A

D3: KR 2003-0050989 A

**I. Prior Art**

D1 relates to a device for utilizing a non-gel self-assembled nano-feature array molecular sieve for analyzing molecules.

D2 relates to a method for manufacturing a fine conductor in a simple process by accumulating metal or a compound on the surface of a nanotube or a graphite very fine particle in vacuum or in rare gas atmosphere.

D3 relates to a method for separating or filtering a test sample on a biochip using a carbon nanotube.

**II. Novelty and Inventive Step**

The subject matter of independent claims 1, 9 and 19 relates to a nanowire-assisted method for mass spectrometric analysis of a specimen via desorption/ionization using a laser as an energy source.

None of the documents D1 to D3 disclose a step using a laser and a nanowire spot (or nanowire suspension) for mass spectrometric analysis of a specimen, as set forth in independent claims 1, 9 and 19 and dependent claims 2-8, 10-18 and 20-27. Therefore, claims 1-27 are considered to be novel (Art. 33(2) PCT). In addition, since said teaching of claims 1-27 is not rendered obvious from the prior art, claims 1-27 appear to involve an inventive step (Art. 33(3) PCT).

**III. Industrial Applicability**

The subject matter of claims 1-27 is considered to be industrially applicable (Art. 33(4) PCT).